



**OBJECTIVE**

Environmental compliance and Ni recovery from mine drainage

**TECHNOLOGIES**

ChemSulphide® & Met-IX™

**PLANT CAPACITY**

6,500 m<sup>3</sup>/day ChemSulphide®  
4,000 m<sup>3</sup>/day Met-IX™

**LOCATION**

Québec, Canada

**BQE WATER SCOPE**

Process design, plant supply and construction, commissioning and training, and ongoing operating services

**PROJECT HIGHLIGHTS**

- 15 years of seasonal operational services under long-term contract
- Cut cost per m<sup>3</sup> of water treated by 10% over 15 years
- Safe, consistent and reliable service at remote site

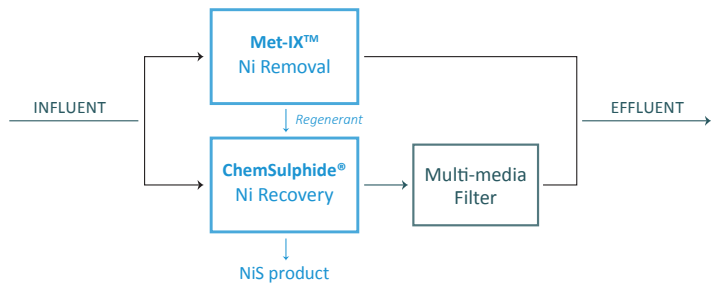
**Project Overview**

ChemSulphide® technology was selected to treat mine drainage at Raglan Mine, an active nickel mine in the Canadian sub-Arctic. Built in 2003, the ChemSulphide® plant replaced a low-density sludge lime plant and treats on average, over one million m<sup>3</sup> of mine water within a 120 day period between the spring snow melt and fall freeze.

The plant produces effluent with nickel levels < 0.25 mg/L for discharge and provides concurrent recovery of a high-grade nickel concentrate. The treated effluent also consistently passes toxicity bioassay testing on trout and daphnia. Most importantly, the plant does not produce any metal-laden sludge requiring disposal.

In response to regulatory requirements to expand site water treatment to cope with an 1 in 100 year storm event without the need to build a second plant, a modular and compact mobile Met-IX™ unit was constructed as an add-on to the ChemSulphide® plant. The plant, housed in a 53 ft trailer, treats mine water to produce effluent for discharge and a nickel containing regenerant stream that is treated in the ChemSulphide® plant.

**Process Flowsheet**



**Water Chemistry**

PARAMETER	FEED	TARGET	RESULTS
pH	6.2 to 8.0	6.0 to 9.5	7.8 to 8.5
Nickel	4 to 40 mg/L	0.50 mg/L	< 0.25 mg/L
Total Suspended Solids	variable	15.0 mg/L	< 1.0 mg/L